

“Illustrations Conchyliologiques, ou Descriptions et Figures de toutes les Coquilles connues.” After Kiener’s death, this work was continued by M. Chenu, who succeeded him, and it has reached its 84th Part; but I fear there is very little hope now of its being continued further.

M. Chenu (from the same collection, and I believe by the liberal assistance of its possessor) brought out his most useful ‘Manuel de Conchyliologie et de Paléontologie’—“Conchyliologie” in two large volumes, illustrated with nearly 5000 woodcut figures, which is certainly the cheapest work on science ever published.

M. Delessert has certainly done all in his power to illustrate the conchological labours of Lamarck and to forward the science.

On the Constitution and Development of the Ovarian Egg of the Sacculinæ. By J. GERBE.

In the ovule of a considerable number of species belonging to various classes of animals, there is, besides the vesicle known to physiologists as the *germinal vesicle* or *Purkinjean vesicle*, a second vesicle, generally of smaller size, which occupies a position more or less approximate to the former. Wittich, Siebold, and V. Carus have indicated it in the ovules of *Aranea domestica*; Balbiani has discovered it in those of the Myriopoda, of the Crustacea of the genus *Oniscus*, of frogs, of a considerable number of spiders, &c.; and, finally, Coste figured it as early as 1847 in the primitive ovule of the bird, immediately above the vesicle which forms the centre of the cicatricula.

What is the function of this second vesicle? Are we to regard it, with Balbiani, as the true formative centre of the germ? or is it not destined to fulfil some other function?

This question may be completely solved by the study of the ovule of those singular parasites the *Sacculinæ* (*Sacculina*, Cavolini, = *Pellogaster*, Rathke), which are found adhering to the tail in certain Crustacea, especially *Cancer mænas*.

In these parasites the reproductive organ, which alone forms five-sixths of the mass of the animal, contains ovules of all ages, the various evolutionary phases of which may be traced from their origin to maturity. Taken from about the central part of the organ, these ovules, which are only from 0.06 to 0.08 millim. in diameter, present a form so different from that generally exhibited by those of other animals, that it would be difficult to recognize their true character, if we did not see them pass from this to a more advanced stage, which leaves no doubt on the subject. They are then formed:—1, of two independent, transparent vesicles, of nearly equal volume, and touching each other almost by a single point of their circumference; 2, of a general envelope (vitelline membrane), which is very delicate and constricted about the point where the two vesicles are in apposition; 3, of a small quantity of colourless substance, excessively finely granulated, which separates the two vesicles from the enveloping membrane. The ovule, instead of being globular, is there-

fore here bilobed and, as it were, composed of two ovules placed side by side and similar in form and organization.

To this first phase others soon succeed which reveal to us the function which these two vesicles are destined to fulfil. Each of these vesicles soon becomes enveloped by fine globules, which make their appearance successively. But whilst round one of them the globules remain very small, retain nearly the same volume throughout, and seem to have a limited multiplication, round the other vesicle they present themselves of very different sizes, gradually increase, and become more and more abundant as the ovule approaches maturity.

That lobe of the ovum in which this increase in the number and volume of the primitive elements takes place necessarily undergoes proportionate modifications; it enlarges for the reception of the materials which increase in it, just as the vitelline membrane of the bird's egg enlarges in proportion as the vitellus is formed, and it finally acquires such a predominance that the other lobe, the development of which has remained in a manner stationary, only forms at one of the poles of the ovule a little prominence like that which is produced in the ovum of osseous fishes in consequence of the condensation of the vitellus.

Such is the appearance presented by the mature ovule of the *Sacculina*. As to its organization, it only differs from the very small ovules by the intervention in unequal proportions of two distinct elements. The predominant element, formed by a mass of large and small globules, in the midst of which one of the primitive vesicles always shows itself, is, there is no doubt, the analogue of the yolk of the bird's egg—that is to say, the material destined for the nourishment of the future embryo; whilst the restricted disk, situated on the periphery of the ovum and composed of very small granules grouped round the other primitive vesicle, evidently represents the cicatricula of birds—that is to say, the essential and fundamental portion of the ovum, of which the materials are directly employed in the formation of the new creature.

The study of the ovule of the *Sacculina*, therefore, gives us the signification of the two vesicles which are contained in the ova of certain species; we may even say that in this case the demonstration is complete, for we may follow the phenomenon in all its phases. One of these vesicles is the formative centre of the germinative element, and must retain the name of *germinal vesicle* under which it is already known; the other is merely the formative centre of the nutritive element.—*Comptes Rendus*, February 22, 1869, tome lxxviii. pp. 460–462.

Euplectella.

Dr. C. Claus, the Professor of Zoology and Director of the Zoological and Zootomical Institute of Marburg, has published an essay on *Euplectella aspergillum* in quarto, with a beautiful photographic illustration representing two varieties of this sponge, and three copper-plates of the spicules of which it is formed. Dr. Claus states that the